

REMARKS

Applicants' representative (Matthew H. Szalach, Reg. No. 53,665) would like to thank Examiner Koch for the courtesies extended during an interview conducted on October 31, 2007. During the interview, Applicants' representative presented arguments to the Examiner that the laser beam (46) of Renn (WO 00/23825) fails to surround a predetermined trajectory of liquid drops, as the laser light (46) of Renn is a solid laser beam and, therefore, distinctly contacts an aerosol particle (52) to divert the trajectory of the aerosol particle (52). In addition to the foregoing, Applicants' representative presented arguments to the Examiner that Oeftering similarly fails to disclose a plurality of light beams that surround a predetermined trajectory of liquid drops, as Oeftering discloses deflection plates (150) for directing a charged droplet (140). While the Examiner was receptive to the foregoing remarks, the Examiner stated that further study of the presently pending claims and cited art of record is required. No exhibits were shown or demonstrations conducted.

Claims 3-5, 17, and 25-36 are now pending in the application. By this paper, Claims 31-36 have been added. The basis for the foregoing new claims can be found throughout the specification, claims, and drawings originally filed. No new matter has been added. The preceding amendments and the following remarks are believed to be fully responsive to the outstanding Office Action and are believed to place the application in condition for allowance. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 103

Claims 25, 26, 3-5, 17, and 27-30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Renn (WO 00/23825) in view of Oeftering (U.S. Pat. No. 5,722,479). This rejection is respectfully traversed.

Independent Claim 25 recites a liquid drop discharge device including a substrate and a plurality of discharge heads supported above the substrate. Each of the discharge heads includes a nozzle and selectively discharges liquid droplets through the nozzle to the substrate. The liquid droplets from each of the discharge heads include a predetermined trajectory from each of the nozzles to the substrate. A plurality of laser devices are each supported proximate one of the discharge heads and each has a plurality of lenses surrounding the nozzle of one of the discharge heads. Each of the laser devices emits a plurality of light beams surrounding the predetermined trajectory of the liquid drops from one of the discharge heads. The light beams provide light energy to the liquid drops when the liquid drops divert from the predetermined trajectory.

Independent Claim 26 recites a liquid discharge device including a stage and a substrate supported on the stage, whereby the stage and the substrate are capable of transmitting light. A discharge head is disposed so as to face the substrate and selectively discharges liquid drops to the substrate. The liquid drops include a predetermined trajectory from the discharge head to the substrate. A head unit is disposed so as to face the stage opposite the discharge head and includes a laser device emitting a plurality of light beams through the stage and the substrate. The light beams are spaced apart from and surround the predetermined trajectory of the liquid

drops and extend in the same direction as the liquid droplets discharged from the discharge head. The light beams provide light energy to the liquid drops when the liquid drops divert from the predetermined trajectory. The head unit further includes a collimator and a diffracting element disposed between the laser device and the stage so that the light beams pass therethrough.

Applicants respectfully submit that the combination of Renn and Oeftering fails to disclose a liquid drop discharge device including a plurality of light beams that surround a predetermined trajectory of liquid drops discharged from a discharge head or that such light beams provide light energy to the liquid drops when the liquid drops divert from the predetermined trajectories.

As discussed in the Response filed July 18, 2007, Renn discloses a nebulizer (54) that generates an aerosol mist (62) containing aerosol particles (52) that are forced into a hollow-core fiber (50) by a solid laser beam (46) received through a lens (64). See Renn at Page 9, Ins. 7-12, and Fig. 4. Applicants respectfully submit that while the laser beam (46) interacts with the aerosol particles (52) to move the aerosol particles (52) into a hollow-core fiber (50), Renn fails to disclose a *plurality* of light beams and, therefore, similarly fails to disclose that such a plurality of light beams *surround* a predetermined trajectory of the aerosol particles (52). Rather, the solid laser light (46) of Renn must engage the aerosol particles (52) to divert the aerosol particles (52) *from* a predetermined trajectory. See Renn at Fig. 4. In sum, Applicants respectfully submit that the solid laser beam (46) of Renn must engage the aerosol particles (52) to divert the aerosol particles (52) from a predetermined trajectory rather than applying light

energy to such particles (52) only after such particles (52) are diverted from a predetermined trajectory.

Applicants respectfully submit that Oeftering is similarly deficient in disclosing a liquid drop discharge device that includes a plurality of light beams that surround a predetermined trajectory of liquid drops discharged from a discharge head. Oeftering discloses a droplet generator (30), an accelerating electrode (130), and deflecting plates (150) that cooperate to guide a charged droplet (140) discharged from the droplet generator (30). See Oeftering at Col. 4, Ins. 10-23, and Figure 2. The accelerating electrodes (130) accelerate or decelerate the charged droplets (140) along an initial trajectory of the charged droplets (140) while the deflecting plates (150) may accelerate the charged droplets (140) in a direction perpendicular to the initial trajectory. See Oeftering at Col. 4, Ins. 10-23. While the deflecting plates (150) may deflect the charged droplets (140) in a direction perpendicular to an initial trajectory of the charged droplets (140), Applicants submit that the deflecting plates (150) do not constitute a plurality of light beams, as recited by independent Claims 25 and 26.

Because Renn fails to disclose a plurality of light beams that surround a predetermined trajectory of liquid drops discharged from a discharge head, as set forth above, and because Oeftering fails to cure this deficiency on Renn, Applicants respectfully submit that independent Claims 25 and 26, as well as Claims 3-5, 17, and 27-31, respectively dependent therefrom, are in condition for allowance. Accordingly, reconsideration and withdrawal of the rejections are respectfully requested.

NEW CLAIMS

New Claims 31-36 are added for consideration. Because Claims 31-36 respectively depend from independent Claims 25 and 26, which are believed to be in condition for allowance in light of the foregoing remarks, Applicants respectfully submit that new claims 31-36 are similarly in condition for allowance.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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